

# IDENTIFICATION AND RELATIVE RANKING OF SUBCONTRACTING PRACTICES IN ROAD CONSTRUCTION

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## Abstract

This paper describes the results of study of conducted for identification of subcontractor practices between the general and subcontractor. The study is conducted with industry professionals and research scholars with interview and questionnaire survey respectively. Guidelines of FIDIC for subcontractor and general construction are studied before deciding the attributes. Using the thorough literature survey and pilot study 18 attributes were enlisted and their priority been found using the TOPSIS statistical technique. The validation of data accumulated is done with Cronbach's alpha. The study is simple and practices are easy to comprehend and implement. If applied, they will produce the positive results within short span of time.

**Keywords:** Subcontracting practices, Subcontractor management.

## Introduction

In Singapore, about 60% to 70% of construction work is subcontracted as per Lin (2011). According to Okunlola (2015), a study conducted in Nigeria; at least 70% of construction work is subcontracted by the main contractor. Subcontracting is becoming prevalent in India also. It already have taken roots in road construction industry and its going to grow with time. With this in mind it is imperative to discuss and adopt standard subcontracting practices.

Before discussing the main practices of subcontracting we must clarify the subtle difference between words as Contractor, Subcontractor, subletting and piecewise worker. As we all know the contractor is someone who awarded the main contract from client. Similarly subcontractor is someone who got award from main contractor for execution of work due to his special set of skills or any new edge technology. Subletting is just passing the whole responsibility, because of which it has banned in many countries including India, with conspicuous reasons. Piece wise work is just small amount of work and people doing it usually not enter in the contract which is as done in subcontractor. The difference between subcontractor and piece worker is just scale of work and expertise. The amount of paper work and the guarantees given by subcontractor is more than piece worker as that much amount paper work become absurd with respect piece worker.

## Objectives

There mainly two objectives in study. The first objectives of study is to find the best subcontracting practices in subcontracting that facilitate the cordial relationship between contractor and subcontractor. Second objective was that what were their relative ranking, to find their criticality in subcontracting.

## Research Methodology

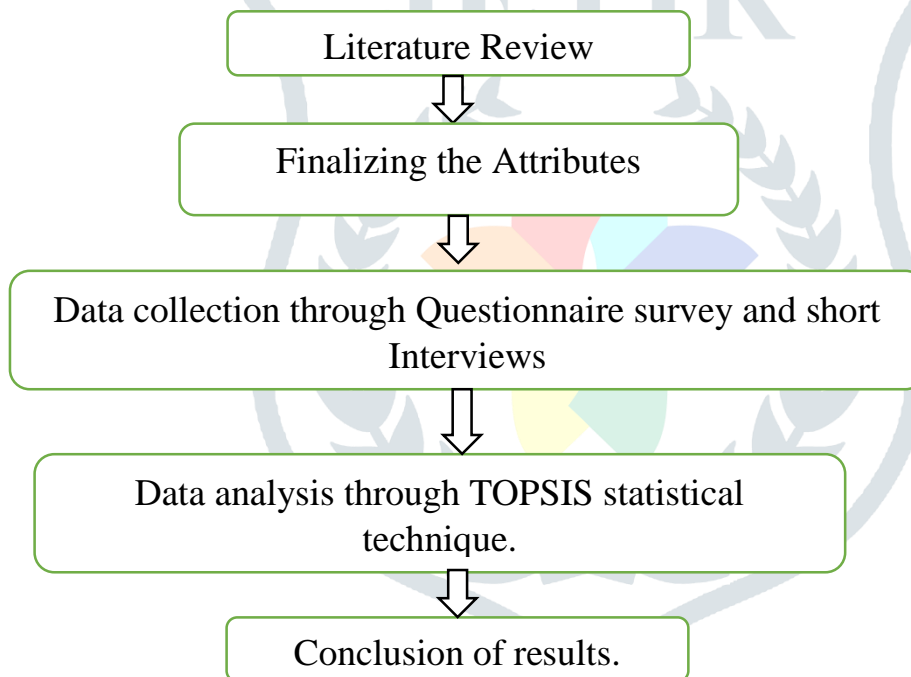
To understand the subcontracting, actual subcontracting contract document were studied between two firms. The international standard guidelines were studied which are published by FIDIC. Especially the pink and red book with extremely important Sub-contractual Conditions were studied.

Method of Questionnaire survey is adopted for this study. After thorough literature survey 18 attributes were finalized and Questionnaire is made formed. Then it is circulated in industry professionals and results were analysed. Citation table is given below.

Sr.no	Name of attribute	Eom et al. (2008)	Thomas H.R et al (2011)	S.Thomas Ng et al (2008)	Zhang S.B. et al (2016)	Ricardo J. Oviedo-Haito et al (2017)	Ashtad Javanmardi et al, (2017)
1	Involvement in making plan and schedule	✓	✓				
2	Building trust		✓		✓	✓	
3	Prebid meeting		✓				
4	Timely resource provision		✓			✓	
5	Walk on the job		✓			✓	
6	Timely payment		✓			✓	
7	Prequalification-quality based selection			✓		✓	
8	Weekly meeting		✓	✓			
9	Regular evaluation		✓	✓			
10	Safe working practices			✓		✓	
11	Enforce contract				✓		
12	Co-operation among subcontractors	✓					✓
13	Co-operation between main and sub-contractor	✓					✓

14	Incentives	✓	✓				
15	Financial situation			✓		✓	
16	Communication	✓		✓			
17	Industry awareness			✓			
18	Organization size			✓			

### Flowchart of research methodology



### Conclusion and discussion

One cannot achieve the all skills that are needed in construction. With advent of time more and more complex projects going to come up. Those who want to cope and stand firm in industry has to expertise in particular set of technology or skill. This leads to subcontracting on wide range of work. The validation of data done with Cronbach's alpha coefficient, who's value comes to be 0.8. Prebid meeting and Walk on the job got highest rank in data analysis. Along with providing incentives opted by many industry professionals as a necessity but not by all. As now a days civil tycoons filing for insolvency now a professional look for financial stability as well as organization size but on the other hand some do suggest that even though financial stability seen but it can never be the sole criteria of selection why? Because of documents could be forged and people may be replaced. Hence they prefer the contractual solidarity and trusted professionals.

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